

Permit No.	49504	Date	3-Aug-09
Company	EI Paso Natural Gas Co.	Engineer	vk2
Facility	Williams Compressor Station		

Facility-wide Emissions

Pollutant	Basis	Emissions Tons per year
NO <sub>x</sub>	Test results	2840.86
PM	AP-42	19.44
PM <sub>10</sub>	AP-42	19.44
CO	Test results	454.24
SO <sub>x</sub>	AP-42	3.30
VOCs	AP-42	43.89
Formaldehyde	GRI -HAPCalc.	28.52

PM, PM<sub>10</sub>, SO<sub>x</sub> and VOC factors based on AP-42

NO<sub>x</sub> and CO emission factors based on recent test results+20% buffer

Formaldehyde emissions based on GRI field test data from HAPCal

Permit No.	49504	Date	3-Aug-09
Company	El Paso Natural Gas Co.	Engineer	vk2
Facility	Williams Compressor Station		

## Stationary Gas Turbines

GE                    197 MMBtu/hr                    22150 HP

Pollutant	Basis	Emission Factor	Units	Emissions tpy
NO <sub>x</sub>	Test results	192.7	lb/Hr	844.03
PM	AP-42	6.60E-03	lb/MMBtu	5.69
PM <sub>10</sub>	AP-42	6.60E-03	lb/MMBtu	5.69
CO	Test results	28.6	lb/Hr	125.27
SO <sub>x</sub>	AP-42	3.40E-03	lb/MMBtu	2.93
VOCs	AP-42	2.10E-03	lb/MMBtu	1.81
Formaldehyde	GRI -HAPCalc.	0.0169368	g/bhp-hr	3.62

PM, PM<sub>10</sub>, SO<sub>x</sub> and VOC factors -Tables 3.1.1 and 3.1.2a -AP42

NO<sub>x</sub> and CO emission factors based on recent test results+20% buffer

Formaldehyde emissions based on GRI field test data fromm HAPCal

Solar                    10.8 MMBtu/hr                    837 HP

Pollutant	Basis	Emission Factor	Units	Emissions tpy
NO <sub>x</sub>	Test results	2.4	lb/Hr	10.51
PM	AP-42	6.60E-03	lb/MMBtu	0.31
PM <sub>10</sub>	AP-42	6.60E-03	lb/MMBtu	0.31
CO	Test results	3.5	lb/Hr	15.33
SO <sub>x</sub>	AP-42	3.40E-03	lb/MMBtu	0.16
VOCs	AP-42	2.10E-03	lb/MMBtu	0.10
Formaldehyde	GRI -HAPCalc.	0.016937	g/bhp-hr	0.14

PM, PM<sub>10</sub>, SO<sub>x</sub> and VOC factors -Tables 3.1.1 and 3.1.2a -AP42

NO<sub>x</sub> and CO emission factors based on recent test results+20% buffer

Formaldehyde emissions based on GRI field test data fromm HAPCal

Permit No.	49504	Date	3-Aug-09
Company	El Paso Natural Gas Co.	Engineer	vk2
Facility	Williams Compressor Station		

## Natural Gas fired generators

### 2 stroke lean burn

Clark-6            1.40E+07 Btu/hr  
                    2000 HP

Pollutant	Basis	Emission Factor	Units	Emissions tpy	Emissions for 4 Engines tpy
NO <sub>x</sub>	Test results	83.7	lb/Hr	366.61	1466.42
PM	AP-42	3.84E-02	lb/MMBtu	2.35	9.42
PM <sub>10</sub>	AP-42	3.84E-02	lb/MMBtu	2.35	9.42
CO	Test results	13.2	lb/Hr	57.82	231.26
SO <sub>x</sub>	AP-42	5.88E-04	lb/MMBtu	0.04	0.14
VOCs	AP-42	1.20E-01	lb/MMBtu	7.36	29.43
Formaldehyde	GRI -HAPCalc.	0.22468	g/bhp-hr	4.34	17.36

PM, PM<sub>10</sub>, SO<sub>x</sub> and VOC factors -Table 3.2.1-AP42

NO<sub>x</sub> and CO emission factors based on recent test results+20% buffer

Formaldehyde emissions based on GRI field test data fromm HAPCal

### 2 stroke lean burn

Clark-10            2.38E+07 Btu/hr  
                    3400 HP

Pollutant	Basis	Emission Factor	Units	Emissions tpy
NO <sub>x</sub>	Test results	117.5	lb/Hr	514.65
PM	AP-42	3.84E-02	lb/MMBtu	4.00
PM <sub>10</sub>	AP-42	3.84E-02	lb/MMBtu	4.00
CO	Test results	18.6	lb/Hr	81.47
SO <sub>x</sub>	AP-42	5.88E-04	lb/MMBtu	0.06
VOCs	AP-42	1.20E-01	lb/MMBtu	12.51
Formaldehyde	GRI -HAPCalc.	0.22468	g/bhp-hr	7.38

PM, PM<sub>10</sub>, SO<sub>x</sub> and VOC factors -Table 3.2.1-AP42

NO<sub>x</sub> and CO emission factors based on recent test results+20% buffer

Formaldehyde emissions based on GRI field test data fromm HAPCal

### 4-Stroke rich burn engine

#### Ingersol Rand emergency Generator

4.73 MMBtu/hr            530 HP            For 550 hours

Pollutant	Basis	Emission Factor	Units	Emissions tpy
NO <sub>x</sub>	Test results	19.1	lb/Hr	5.25
PM	AP-42	9.50E-03	lb/MMBtu	0.01
PM <sub>10</sub>	AP-42	9.50E-03	lb/MMBtu	0.01
CO	Test results	3.3	lb/Hr	0.91
SO <sub>x</sub>	AP-42	5.88E-04	lb/MMBtu	0.00
VOCs	AP-42	2.96E-02	lb/MMBtu	0.04
Formaldehyde	GRI -HAPCalc.	0.099429	g/bhp-hr	0.03

PM, PM<sub>10</sub>, SO<sub>x</sub> and VOC factors -Table 3.2.3-AP42

NO<sub>x</sub> and CO emission factors based on recent test results+20% buffer

Formaldehyde emissions based on GRI field test data fromm HAPCal